

We Claim:

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1. A method of changing a maximum segment size for a connection between a data source and a data receiver on a network comprising the steps of:

receiving an announcement of a first connection between said data source and
5 said data receiver; and

changing said maximum segment size in said announcement of said first connection to a determined maximum segment size.

2. Claim 1 further comprising recalculating a checksum of said announcement.

3. The method in claim 1, wherein said announcement comprises a first message
10 of a data stream in said connection,

4. The method in claim 1, wherein said announcement comprises a set SYN bit.

5. The method in claim 1, wherein said first connection is one of any virtual connections utilizing TCP/IP between said data source and said data receiver.

6. The method in claim 1, wherein changing said maximum segment size
15 comprises changing said maximum segment size in a TCP header in said announcement.

7. The method in claim 1, wherein said determined maximum segment size is pre-programmed into a database.

8. The method in claim 1, wherein said data source comprises customer premise equipment, and wherein said data receiver comprises customer premise equipment

20 9. The method in claim 1, wherein said determined maximum segment size reduces message fragmentation.

10. The method in claim 1, wherein said determined maximum segment size avoids re-assembly of fragments.

11. A method of reducing message fragmentation for a connection between a data source and a data receiver on a network comprising the steps of:

receiving a first message fragment of a first connection between said data source and said data receiver;

5 storing a maximum segment size of said first message fragment of said first connection, wherein said maximum segment size exists in accordance with said first message fragment;

resetting said first connection, wherein resetting said first connection initiates a second connection; and

10 placing said maximum segment size into an announcement of said second connection.

12. Claim 11 further comprising recalculating a checksum of said announcement of said second connection.

13. The method in claim 11, wherein said first message fragment comprises a first message of a data stream in said connection.

14. The method in claim 11, wherein said first message comprises a set SYN bit.

15. The method in claim 11, wherein said first connection is one of any virtual connections utilizing TCP/IP between said data source and said data receiver.

16. The method in claim 11, wherein said second connection is a connection following said first connection.

17. The method in claim 11, wherein storing said maximum segment size comprises storing said maximum segment size in a database.

18. The method in claim 11, wherein resetting said first connection comprises closing said first connection by setting a RST bit.

19. The method in claim 11, wherein resetting said first connection initiates said second connection.

5 20. The method in claim 11, wherein placing said maximum segment message size into said announcement of said second connection comprises placing said maximum segment message into a TCP header within said announcement of said second connection.

10 21. The method in claim 11, wherein said data source comprises customer premise equipment, and wherein said data receiver comprises customer premise equipment.

22. A method of reducing message fragmentation between the data source and the data receiver connected by a network comprising the steps of:

15 intercepting a first announcement of a first connection between said data source and said data receiver;

predicting a determined maximum segment size of said first connection, wherein said determined maximum segment size is placed in a signal;

sending said signal with a no-fragment option set to said data source and said data receiver;

20 storing said determined maximum segment size, whereupon said determined maximum segment size results from a signal response having a maximum transmission unit that is no larger than a maximum transmission unit of said network.

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23. A method in claim 22, wherein said determined maximum segment size is iteratively predicted until a message maximum transmission unit is no larger than a maximum transmission unit of said network.

24. A method in claim 22, wherein said no-fragment option is set in an IP header within said signal.

25. An apparatus for reducing message fragmentation between a data source and a data receiver connected by a network comprising:

a network device connected to the network, wherein said network device changes a maximum segment size to a determined maximum segment size used in data transmission between said data source and said data receiver;

a storage device connected to said network device for storing said determined maximum segment size for data transmitted between said data source and said data receiver; wherein said network device stores said determined maximum segment sizes in accordance to data communication between said data source and data receiver.

26. An apparatus in claim 25, wherein said announcement comprises a first message, said first message fragment comprises a first message of a data stream in said connection, and wherein said first message comprises a set SYN bit.

27. An apparatus in claim 26, wherein the network device iteratively predicts said determined maximum segment size.

28. An apparatus as claimed in Claim 26, wherein said storage device comprises a database.

29. An apparatus of reducing fragmentation between a data source and a data receiver as claimed in Claim 26, wherein said network device comprises a gateway device

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